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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: C. Frank Bennett et al.

Serial No.: Not yet assigned Group No.: Not yet assigned

Filed: herewith

For: **Antisense Modulation of MHC class II transactivator Expression**

BOX SEQUENCE

Assistant Commissioner for Patents  
Washington DC 20231

11000 U.S. PRO  
10/006366  
11/05/01



**INFORMATION DISCLOSURE STATEMENT**

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §§1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 C.F.R. §1.56(b).

In accordance with §1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above identified application, within three months of the date of entry into the national stage of the above identified application as set forth in §1.491, or before the mailing date of a first Office Action on the merits of the above identified application, no additional fee is required.

Copies of each of the references listed on the attached Form PTO-1449 are enclosed.

Date: December 4, 2001

Respectfully submitted,



Donna T. Ward  
Registration No. 48,271

ISIS PHARMACEUTICALS, INC.  
Carlsbad Research Center  
2292 Faraday Avenue  
Carlsbad, CA 92008

#3  
KJ, 2001

31000 U.S. PRO  
310/006366  
11/05/01



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: C. Frank Bennett and Kenneth W. Dobie

For: Antisense Modulation of MHC class II transactivator Expression

BOX SEQUENCE  
Assistant Commissioner for Patents  
Washington DC 20231

PATENT APPLICATION TRANSMITTAL LETTER*attachment*

Transmitted herewith for filing, please find the following:

- The specification of the above-referenced patent application;
- An executed Declaration or Oath and Power of Attorney;
- An Assignment of the invention to Isis Pharmaceuticals Inc. with recordation cover sheet (PTO Form PTO-1595) and \$40.00 cover fee;
- Statement to Support Filing and Submission of DNA/Amino Acid Sequences in Accordance with 37 CFR §§ 1.821 through 1.825;
- Sequence listing in computer readable form in accordance with 37 C.F.R. § 1.821(e);
- An Information Disclosure Statement with references; and
- Applicant claims small entity status pursuant to 37 CFR § 1.27.

The filing fee has been calculated as shown below:

For:	No. Filed	No. Extra	Rate	Fee
				\$370.00
BASE FEE				
Total Claims	20 - 20 =	0	X \$9=	\$0
Indep. Claims	2 - 3 =	0	x\$40=	\$0
			TOTAL	\$ 370.00

The Commissioner is hereby authorized to charge the following fees to Deposit Account No. 500252:

- the amount of \$410.00 for the above listed fees;
- payment of the following fees associated with this communication or credit any overpayment;
- any additional filing fees required under 37 CFR 1.16 including fees for presentation of extra claims; and
- any additional patent application processing fees under 37 CFR 1.17 and under 37 CFR 1.20 (d).

Triplicate copies of this transmittal are enclosed.

Date: December 5, 2001


Donna T. Ward

Registration No. 48,271

Isis Pharmaceuticals, Inc.

Please address all correspondence to:

Jane Massey Licata or Kathleen A. Tyrrell  
Licata & Tyrrell, P.C.  
66 East Main Street  
Marlton NJ 08053  
(856) 810-1515

Form PTO-1449 Modified  List of Patents and Publications Cited by Application (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. RTS-0332	Serial No. 10/006,366
		Applicant C. Frank Bennett et al.	
		Filing Date	Group 1635

## U. S. PATENT DOCUMENTS

Examiner's Initial		Document No.	Date	Name	Class	Subclass
KAZ	AA	5,672,473	9/30/1997	Glimcher et al.	435	6
KAZ	AB	5,994,082	11/30/1999	Mach	435	7.1
KAZ	AC	5,944,505	11/30/1999	Ting et al.	530	350
KAZ	AD	6,022,741	2/8/2000	Ting et al.	435	366
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					
	AK					
	AL					
	AM					
	AN					

## FOREIGN PATENT DOCUMENTS

Examiner's Initial		Document No.	Date	Country	Translation	
					YES	NO
KAZ	AO	WO 98/15626	4/16/1998	PCT	X	
	AP	EP 0874049	10/28/1998	EP		X
KAZ	AQ	WO 98/25968	6/18/1997	PCT	X	
	AR					
	AS					
	AT					
	AU					
	AV					
	AW					
	AX					

EXAMINER *Karen A. Jasencic* DATE CONSIDERED 06-04-03

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Form PTO-1449 Modified		Docket No. RTS-0332	Serial No. not yet assigned
List of Patents and Publications Cited by Application (Use several sheets if necessary)		Applicant C. Frank Bennett et al.	
U.S. Department of Commerce Patent and Trademark Office		Filing Date herewith	Group 1635
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
KAL	AA	Bontron et al., Two novel mutations in the MHC class II transactivator CIITA in a second patient from MHC class II deficiency complementation group A, <i>Hum. Genet.</i> , 1997, 99:541-546	
	AB	Charreau et al., Cyclosporine inhibits class II major histocompatibility antigen presentation by xenogeneic endothelial cells to human T lymphocytes by altering expression of the class II transcriptional activator gene, <i>Transplantation</i> , 2000, 70:354-361	
	AC	Chin et al., Molecular analysis of G1B and G3A IFN gamma mutants reveals that defects in CIITA or RFX result in defective class II MHC and Ii gene induction, <i>Immunity</i> , 1994, 1:687-697	
	AD	Cressman et al., Mechanisms of nuclear import and export that control the subcellular localization of class II transactivator, <i>J. Immunol.</i> , 2001, 167:3626-3634	
	AE	Harton et al., GTP binding by class II transactivator: role in nuclear import, <i>Science</i> , 1999, 285:1402-1405	
	AF	Harton et al., Class II transactivator: mastering the art of major histocompatibility complex expression, <i>Mol. Cell. Biol.</i> , 2000, 20:6185-6194	
	AG	Itoh-Lindstrom et al., Reduced IL-4-, lipopolysaccharide-, and IFN-gamma-induced MHC class II expression in mice lacking class II transactivator due to targeted deletion of the GTP-binding domain, <i>J. Immunol.</i> , 1999, 163:2425-2431	
	AH	Kielar et al., Nitric oxide inhibits INFgamma-induced increases in CIITA mRNA abundance and activation of CIITA dependent genes--class II MHC, Ii and H-2M. Class II TransActivator, <i>Inflammation</i> , 2000, 24:431-445	
✓	AI	Kwak et al., The HMG-CoA reductase inhibitor simvastatin inhibits IFN-gamma induced MHC class II expression in human vascular endothelial cells, <i>Swiss Med. Wkly.</i> , 2001, 131:41-46	
EXAMINER <i>Karen Alfonso</i>		DATE CONSIDERED	06-04-03

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U.S. Department of Commerce Patent and Trademark Office		Filing Date herewith	Group 1635
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
KAC	AJ	Landmann et al., Maturation of dendritic cells is accompanied by rapid transcriptional silencing of class II transactivator (CIITA) expression, <i>J. Exp. Med.</i> , 2001, 194:379-391	
	AK	Li et al., Downregulation of CIITA function by protein kinase a (PKA)-mediated phosphorylation: mechanism of prostaglandin E, cyclic AMP, and PKA inhibition of class II major histocompatibility complex expression in monocytic lines, <i>Mol. Cell. Biol.</i> , 2001, 21:4626-4635	
	AL	Linhoff et al., Two distinct domains within CIITA mediate self-association: involvement of the GTP-binding and leucine-rich repeat domains, <i>Mol. Cell. Biol.</i> , 2001, 21:3001-3011	
	AM	Martin et al., Combination gene therapy with CD86 and the MHC class II transactivator in the control of lung tumor growth, <i>J. Immunol.</i> , 1999, 162:6663-6670	
	AN	Raval et al., Transcriptional coactivator, CIITA, is an acetyltransferase that bypasses a promoter requirement for TAF(II)250, <i>Mol. Cell.</i> , 2001, 7:105-115	
	AO	Reith et al., The bare lymphocyte syndrome and the regulation of MHC expression, <i>Annu. Rev. Immunol.</i> , 2001, 19:331-373	
	AP	Sisk et al., Self-association of CIITA and its transactivation potential, <i>Mol. Cell. Biol.</i> , 2001, 21:4919-4928	
	AQ	Steimle et al., Complementation cloning of an MHC class II transactivator mutated in hereditary MHC class II deficiency (or bare lymphocyte syndrome), <i>Cell</i> , 1993, 75:135-146	
	AR	Waldburger et al., Selective abrogation of major histocompatibility complex class II expression on extrahematopoietic cells in mice lacking promoter IV of the class II transactivator gene, <i>J. Exp. Med.</i> , 2001, 194:393-406	
EXAMINER	Karen A. Jacourne		DATE CONSIDERED 06-04-03

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U.S. Department of Commerce Patent and Trademark Office		Filing Date herewith	Group 1635

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

KAR	AS	Zhu et al., Transcriptional scaffold: CIITA interacts with NF-Y, RFX, and CREB to cause stereospecific regulation of the class II major histocompatibility complex promoter, Mol. Cell. Biol., 2000, 20:6051-6061
EXAMINER	Karen A. Lacourciere	DATE CONSIDERED 06-04-03